

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "CWA"),

SUEZ Energy NA, Inc.

is authorized to discharge from a facility located at

**Bethlehem Power Plant
1241 Whitefield Road
Bethlehem, NH 03574**

to receiving water named

Ammonoosuc River (Hydrologic Basin Code 01070001)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective November 1, 2006.

This permit and the authorization to discharge expire October 31, 2011.

This permit supersedes the permit issued on December 19, 1986.

This permit consists of 10 pages in Part I including Effluent Limitations and Monitoring Requirements, Reporting Requirements, and State Permit Conditions; Attachment A (10 pages); Attachment B (19 pages) and Part II including General Conditions and Definitions.

Signed this day of , 2006

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Region I - New England
Boston, Massachusetts

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The term "Regional Administrator" means the Regional Administrator of Region I of the U.S. Environmental Protection Agency and the term "Commissioner" means the Commissioner of the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) or their respective designee.
2. All procedures used for the purpose of collecting, preserving, and analyzing wastewater samples shall be in conformance with 40 C.F.R. Part 136 unless alternative procedures are specified in this NPDES permit.
 - a. Alternate analytical methods shall be approved by EPA at the permittee's written request should the permittee demonstrate to EPA's satisfaction that it will utilize equally sensitive test methods. Such a request will be considered a minor modification to the permit.
 - b. The Whole Effluent Toxicity (WET) test required by this permit is a 48-Hour Static Acute test on effluent samples using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol dated December 1995).
 - i. LC50 (Lethal Concentration 50 Percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. The "100 % or greater limit" is defined as a sample which is composed of 100 % effluent. This limit is considered to be a maximum daily limit.
 - ii. A-NOEC (Acute-No Observed Effect Concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle test which causes no adverse effects (in this case, death) at a specific time of observation as determined from hypothesis testing where the test results (again, death) exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, report the lowest concentration where there is no observable effect. See Attachment A, page A-8 (VII. Toxicity Test Data Analysis) for additional clarification.
 - iii. All pollutant parameters shall be determined to at least the Minimum Quantification Level (MLs) shown in Attachment A, page A-8, or as amended.

3. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 001(process): boiler blowdown, sandfilter backwash, demineralizer regeneration, mechanical equipment cooling, cooling tower treatment filtrate (blowdown), artesian well flushing, condenser cleaning, laboratory wastewater and other miscellaneous floor drain wastes to the Ammonoosuc River only during emergencies. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Maximum Daily Discharge Limitations	Monitoring Requirements	
		Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	0.20	Continuous	Recorder
Total Suspended Solids (mg/l)	100	Each Discharge Event	Composite
Temperature (°F)	85	Continuous	Recorder
Temperature Rise, (ΔT), (°F) ¹	20	Continuous	Recorder
Oil and Grease (mg/l)	20	Each Discharge Event	Grab
The 126 priority pollutants contained in chemicals added for cooling tower maintenance (except Cr and Zn)	No detectable amount	Each Discharge Event	Grab
Total Recoverable Chromium (mg/L)	0.2	Each Discharge Event	Composite
Total Recoverable Zinc (mg/L)	1.0	Each Discharge Event	Composite
Total Recoverable Copper (mg/l)	0.35	Each Discharge Event	Composite
Total Recoverable Iron (mg/l)	0.30	Each Discharge Event	Composite
Total Residual Chlorine (mg/l)	0.2	Each Discharge Event	Grab
pH (standard units)	≥ 6.5 and ≤ 8.0 ²	Continuous	Recorder ³
Whole Effluent Toxicity			
LC50 (%)	≥ 100	Each Discharge Event	Composite
A-NOEC (%)	Report	Each Discharge Event	Composite
Ammonia Nitrogen as Nitrogen (mg/l)	Report	Each Discharge Event	Composite
Hardness (mg/l)	Report	Each Discharge Event	Composite
Total Recoverable Aluminum (mg/l)	Report	Each Discharge Event	Composite
Total Recoverable Cadmium (mg/l)	Report	Each Discharge Event	Composite
Total Recoverable Lead (mg/l)	Report	Each Discharge Event	Composite
Total Recoverable Nickel (mg/l)	Report	Each Discharge Event	Composite

¹ Temperature Rise is the temperature difference between the intake water and the discharge.

² See State Permit Conditions, Part I.C.

³ Report minimum and maximum values.

- a. Effluent samples shall be representative of the discharge and shall be taken from the discharge pipe within the manhole located approximately 10 feet from the river, prior to discharging into the Ammonoosuc River and without mixing with storm water. At no time shall the discharge flow rate exceed 150 gallons per minute. The permittee shall notify EPA and NHDES-WD within 24 hours by telephone after initiating discharge from this location.
 - b. Compliance with the “no detection” limitation for the 126 priority pollutants may be determined by engineering calculations. (See 40 CFR § 423.15(j)(3)) If this approach is taken, the permittee shall demonstrate that none of the 126 priority pollutants occurs in any of the treatment chemicals added by the company and this information (updated if chemicals change) shall be submitted to the EPA and NH DES-WD with every December Discharge Monitoring Report (DMR) thereafter.
 - c. Whole Effluent Toxicity (WET) test results are to be submitted by the 15th day of the month following the month the discharge event occurred.
4. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial numbers 002: storm water runoff to the Ammonoosuc River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Maximum Daily Discharge Limitations	Monitoring Requirements	
		Measurement Frequency	Sample Type
Oil and Grease (mg/l)	15	1/Quarter	Grab
Total Suspended Solids (mg/l)	100	1/Quarter	Grab
Iron (mg/l)	1.0	1/Quarter	Grab
Chemical Oxygen Demand (mg/l)	Report	1/Quarter	Grab
pH (standard units)	≥ 6.5 and ≤ 8.0	1/Quarter	Grab
pH (standard units) of rainfall	Report	1/Quarter	Grab

- a. Effluent samples shall representative of the discharge and shall be taken from stormwater collection system drain pipe, prior to discharging into the Ammonoosuc River.
- b. At each outfall, grab samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab samples shall be taken during the first thirty minutes of the discharge. If collection of the grab sample(s) during the first thirty minutes is impracticable, grab sample(s) can be taken as soon after that as possible, and the permittee shall submit with the monitoring report a description of why the collection of the grab sample(s) during the first thirty minutes was impracticable. When a permittee is unable to collect grab sample(s) due to adverse climatic conditions,

the permittee must submit, in lieu of sampling data, a description of why the grab sample(s) could not be collected, including available documentation of the event. The permittee must submit this information either in the comments section of the DMR(s) or in an attached letter. Adverse weather conditions which may prohibit the collection of sample(s) include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of sample(s) impracticable (drought, extended frozen conditions, specified storm event did not occur during sampling period, etc.). A "no discharge" report shall be submitted for those quarters in which there is no discharge.

- c. The pH shall not be less than 6.5 S.U. nor greater than 8.0 S.U. unless due to naturally occurring conditions in the rainfall. The pH shall be within 0.5 S.U. of the rainfall pH when the pH is outside the above range. Rainfall pH shall be monitored when the discharge is monitored and shall be reported on the appropriate Discharge Monitoring Report.

5. Water Treatment Chemicals

- a. Every July the permittee must collect a representative sample of water from the drain/tempering tank and perform on that sample a: 48-Hour static acute WET test following the protocol shown in Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol dated December 1995). Results of all required testing shall be submitted on Discharge Monitoring Reports (DMR) to EPA and the NHDES-WD by September 15th of each year.
- b. The permittee may propose to conduct feasibility studies involving new chemicals containing pollutants not currently approved for water discharge (See Part I.A.7.c). The permittee shall gain approval from the Regional Administrator and the Commissioner before any such studies take place. A report summarizing the results of any such studies shall be submitted to the Regional Administrator and the Commissioner regarding discharge frequency, concentration, and the impact, if any, on the indigenous populations of the receiving water. The Regional Administrator or the Commissioner may require, among other parameters, Whole Effluent Toxicity testing as part of feasibility studies.

6. Storm Water Pollution Prevention Plan (SWPPP)

- a. The permittee shall continue to implement its SWPPP. Review and updating the SWPPP shall be done at least annually. Except as provided elsewhere in this permit, the SWPPP for this facility shall provide for compliance with the terms of the permit and the plan. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from this facility. In addition, the SWPPP shall describe and ensure the implementation of practices to reduce the pollutants in storm water discharges associated with industrial activity and to assure compliance with the terms and conditions of this permit. Attachment B provides the minimum requirements that must be addressed in the SWPPP for this facility.

- b. Within sixty (60) days of the effective date of this permit, the permittee shall submit to EPA and NHDES-WD a copy of its updated SWPPP.

7. Water Quality Requirements

- a. Discharges and water withdrawals shall not either cause a violation of the water quality standards or jeopardize any Class B use of the Ammonoosuc River.
- b. The thermal plumes from the station shall: (a) not block zones of fish passage, (b) not interfere with spawning of indigenous populations, (c) not change the balanced indigenous population of the receiving water, and (d) have minimal contact with surrounding shorelines.
- c. Pollutants which are not limited by the permit, but have been specifically disclosed in the last permit application, may be discharged at the frequency and level disclosed in the application, provided that such discharge does not violate sections 307 and 311 of the Act or applicable water quality standards.
- d. Discharges to the Ammonoosuc River shall be adequately treated to insure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. They shall be adequately treated to insure that the surface waters remain free from pollutants which produce odor, color, taste, or turbidity in the receiving water which is not naturally occurring and would render it unsuitable for its designated uses.
- e. The effluent shall not contain metals and/or materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters.

8. Cooling Water Intake Structure Requirements

It has been determined that the cooling water intake structure presently designed employs the best technology available for minimizing adverse environmental impact. No change in the location, design or capacity of the present structure can be made without prior approval of the Regional Administrator and the Commissioner. The present design shall be reviewed for conformity to regulations pursuant to CWA § 316(b) at each permit renewal.

9. Other Requirements

- a. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid. The permittee shall dispose of all known PCB equipment, articles, and wastes in accordance with 40 CFR 761. The permittee shall submit to EPA and NHDES-WD a certification that this disposal has been accomplished within thirty (30) days of such disposal.
- b. Chlorine only may be used as a biocide. No other biocide shall be used without explicit approval from EPA and the Commissioner.
- c. There will be no discharge as a result of metal cleaning wastes, including washing of air

precipitators, preheaters, boilers, or other types of process equipment.

- d. Wood chips, sawdust, waste ash, and other wood related debris shall not enter the Ammonoosuc River from any runoff area. These materials shall be prevented from entering the storm water collection system. All solids collection areas shall be inspected at least quarterly for compliance with this provision and, if necessary, cleaned. All debris removed from collection areas shall be disposed of according to applicable State and Federal regulations.
- e. The permittee shall comply with all existing federal, state, and local laws and regulations that apply to the reuse or disposal of solids, such as those which may be removed from the cooling towers, water and waste treatment operations and equipment cleaning. At no time shall these solids be discharged to the Ammonoosuc River.
- f. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Administrator as soon as they know or have reason to believe (40 CFR §122.42):
 - i. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - (4) Any other notification level established by the Regional Administrator in accordance with 40 CFR §122.44(f).
 - ii. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - (4) Any other notification level established by the Regional Administrator in accordance with 40 CFR §122.44(f).

a. Storm Water Monitoring Frequency Adjustment

If four consecutive storm water (Part I.A.4) monitoring values show compliance with the permit limits, the permittee may request to reduce monitoring for that pollutant to no less than once per year for the duration of the permit. The permittee shall submit the requests, with copies of the monitoring data, to the EPA. Until written notice is received by certified mail from the EPA indicating that the storm water monitoring requirements have been changed, the permittee is required to continue testing at the frequency specified in this permit.

b. pH Limit Adjustment

The permittee may submit a written request to the EPA requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 S.U. The permittee's written request must include the State's letter containing an original signature (no copies). The State's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range, the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

c. Whole Effluent Toxicity Test Frequency Adjustment

The permittee may submit a written request to the EPA-New England requesting a reduction in the frequency of required toxicity testing to no less than once every three years, after completion of a minimum of the most recent two (2) successive toxicity tests of the yearly drain/tempering tank analysis (Part I.A.5.a), which must be valid tests and must demonstrate compliance with the $LC50 \geq 100$ permit limit for whole effluent toxicity. Until written notice is received by certified mail from the EPA indicating that the Whole Effluent Testing requirement has been changed, the permittee is required to continue testing at the frequency specified in this permit.

11. This permit shall be modified, or alternatively, revoked and reissued to comply with any applicable standard or limitation promulgated or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- (1) contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
- (2) controls any pollutant not limited by this permit.

12. This permit may be modified, or alternatively, revoked and reissued to incorporate additional

testing requirements, including chemical specific limits, for Outfalls 001 and 002 and the water in the drain/tempering tank, if any testing result indicates that the discharge causes or has reasonable potential to cause or contribute to an exceedance of any State water quality criterion. Results of the analyses required by this Permit are considered "New Information" and the Permit may be modified as provided in 40 CFR Section 122.62(a)(2).

B. MONITORING AND REPORTING

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period. The permittee shall provide written explanations of all violations in DMR cover letters.

Bethlehem Power Plant may assert a business confidentiality claim with respect to part or all of the information submitted to EPA in the manner described at 40 CFR Part 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means, of the procedures set forth in 40 CFR Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to Bethlehem Power Plant. Effluent information shall not be regarded as confidential.

Signed and dated originals of the DMRs, and all other reports required herein or in Part II, shall be submitted to the Director at the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114-8127

All 24 hour notifications (Part I.A.3.a) shall be made to Sharon Zaya at phone number 617-918-1995. All permit change requests shall be directed to the Industrial Permits Branch, One Congress Street, Suite 1100 (CIP), Boston, Massachusetts 02114.

In addition, duplicate signed copies of all DMRs and all other notifications and reports required by this permit shall be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

C. STATE PERMIT CONDITIONS

The permittee shall comply with the following conditions which are included as State Certification requirements.

The pH range of 6.5-8.0 S.U. must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water, or (2) that the naturally occurring source water pH is unaltered by the permittee's operations. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits less restrictive than applicable federal effluent limitation guideline(s) published in the CFRs.

This NPDES Discharge Permit is issued by the U.S. Environmental Protection Agency under Federal and State law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.